

Notice of Allowability

Application No.

10/694,353

Examiner

Bernard Lipman

Applicant(s)

CHANG ET AL.

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1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers filed 02 November 2005.
2. ☒ The allowed claim(s) is/are 1-11 (rejoined).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

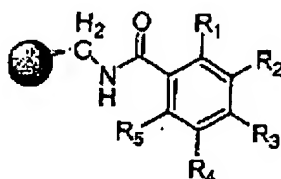
1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Anne M. Kornbau, ESQ. on 20 December 2005.

The application has been amended as follows: the claims are amended to read:

Listing of Claims:

1. (Original) Nitrophenol resins on a support selected from compounds of the following formula:



wherein one of R₁, R₂, R₃, R₄, and R₅ is OH;

at least one of R₁, R₂, R₃, R₄, and R₅ is NO₂;

the R₁, R₂, R₃, R₄ and R₅ that are not OH or NO₂ are selected from the group consisting of hydrogen, substituted and unsubstituted alkyl groups, and substituted and unsubstituted aryl groups; and



is a solid support.

2. (Original) The nitrophenol resin according to claim 1 wherein the solid support is selected from the group consisting of polystyrene, Tantagel, polyethylene glycol dimethacrylamide copolymers, macroporous resins, and silica gel.

3. (Currently Amended) A method for synthesizing nitrophenol resins according to claim 1 comprising forming amide bonds between hydroxynitrobenzoic acids and an amino-alkyl polymer support.

4. (Original) The method according to claim 3 wherein the coupling scheme is 1,3-diisopropylcarbodiimide-1-hydroxybenzotriazole and 1-hydroxybenzotriazole.

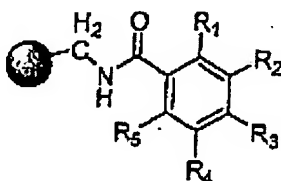
5. (Original) The method according to claim 3 wherein the coupling occurs in a solvent selected from the group consisting of N,N-dimethyl formamide, 1-methyl-2pyrrolidinone tetrahydrofurene, and methylene chloride.

6. (Currently Amended) A method for synthesizing nitrophenol resins according to claim 1 comprising hydrolyzing chlorobenzene.

7. (Original) The method according to claim 6 wherein an alkylamino resin is coupled with 4-chloro-3-nitrobenzoic acid.

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8. (Original) A method for preparing carboxyl ester resins comprising reacting an acyl halide with a nitrophenol resin on a support selected from compounds of the following formula:



wherein one of R_1 , R_2 , R_3 , R_4 and R_5 is OH;

at least one of R_1 , R_2 , R_3 , R_4 and R_5 is NO_2 ;

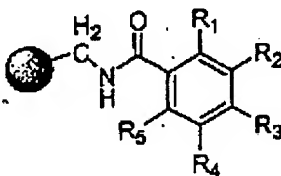
the R_1 , R_2 , R_3 , R_4 and R_5 that are not OH or NO_2 are

selected from the group consisting of hydrogen, substituted and unsubstituted alkyl groups, and substituted and unsubstituted aryl groups; and



is a solid support.

9. (Original) A method for preparing sulfonyl ester resins comprising reacting a sulfonyl halide with a nitrophenol resin on a support selected from compounds of the following formula:



wherein one of R_1 , R_2 , R_3 , R_4 and R_5 is OH;

at least one of R_1 , R_2 , R_3 , R_4 and R_5 is NO_2 ;

the R_1 , R_2 , R_3 , R_4 and R_5 that are not OH or NO_2 are

selected from the group consisting of hydrogen, substituted and unsubstituted alkyl groups, and substituted and unsubstituted aryl groups; and

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 a solid support.

10. (Original) A method for preparing amides comprising reacting an amine with a carboxyl ester resin produced according to claim 8.

11. (Currently Amended) The method according to claim 10 wherein the amine is selected from the group consisting of 1-cyclohexylpiperazine, 1-(2-pyridyl)piperazine, dimethylamine, 6-amino-1-hexanol, (S)-(+)-leucinol, n-butylamine, phenethylamine, (R)-(+)-(naphthyl)ethylamine, octylamine, and decylamine.

The following is an examiner's statement of reasons for allowance: Although nitrophenol functionalities are taught on polymeric supports, nowhere is the combination of nitrophenol functionality with the use of amide linkages taught or suggested by the prior art. Applicants' claims are, therefore, both novel and unobvious over the closest prior art as cited.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Lipman whose telephone number is 571-272-1105. The examiner can normally be reached on 8-5 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Bernard Lipman
Primary Examiner
Art Unit 1713

BL/hs